

WHAT IS CLAIMED IS:

1. An optical fiber array comprising:

a plurality of through-hole array boards each made of a plate-like board having a plurality of through-holes provided at regular intervals in a direction substantially perpendicular to a board surface of said plate-like board, and a plurality of optical fibers having end portions inserted and held in said plurality of through-hole array boards, wherein:

said plurality of through-hole array boards are laminated so as to be in contact with one another; and

said plurality of through-hole array boards are positioned in such a manner that center axes of corresponding through-holes formed in said boards are relatively displaced from a coaxial position so that each optical fiber inserted in said corresponding through-holes comes into contact with inner walls of said corresponding through-holes at a plurality of points.

2. An optical fiber array according to Claim 1, wherein each of said through-holes is shaped like a circle, an ellipse or an oblong in section.

3. An optical fiber array according to Claim 1, wherein each of said through-holes is shaped like a polygon or a rounded-corner polygon in section.

4. An optical fiber array according to Claim 1, wherein said optical fibers are perpendicular to surfaces of said plurality of through-hole array boards or inclined at a predetermined angle in a predetermined direction with respect to the surfaces of said plurality of through-hole array boards.

5. An optical fiber collimator array comprising a combination of an optical fiber array defined in Claim 1 and a planar microlens array having a lens interval corresponding to an optical fiber interval of said optical fiber array.

6. An optical module comprising a combination of an optical fiber collimator array defined in Claim 5 and an optically functional device array having a device interval corresponding to a collimator interval of said optical fiber collimator array.

7. An optical module comprising a combination of an optical fiber array defined in any one of Claims 1 through 4 and an optically functional device array having a device interval corresponding to an optical fiber interval of said optical fiber array.